

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Alan K. SMITH, et al.

SERIAL NO: New U.S. Application

GAU:

FILED: Herewith

EXAMINER:

FOR: HUMAN LINEAGE COMMITTED CELL COMPOSITION WITH ENHANCED PROLIFERATIVE POTENTIAL, BIOLOGICAL EFFECTOR FUNCTION, OR BOTH; METHODS FOR OBTAINING SAME; AND THEIR USES

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Jean-Paul Lavalleye

Registration No. 31,451

Customer Number

22850

Tel. (703) 413-3000
Fax. (703) 413-2220
(OSMMN 05/03)

Daniel J. Pereira, Ph.D.

Registration No. 45,518

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 216499US55CONT		SERIAL NO. NEW U.S. APPLICATION	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Alan K. Smith, et al.			
				FILING DATE Herewith		GROUP	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	6,326,198	12/04/01	Emerson et al			
	AB	6,299,650	10/09/01	Van Blitterswijk et al			
	AC	5,811,094	09/22/98	Caplan et al			
	AD	5,646,043	07/08/97	Emerson et al			
	AE	4,135,975	01/23/79	Lichtman et al			
	AF	4,514,499	04/30/85	Noll			
	AG	4,861,714	08/29/89	Dean et al			
	AH	5,032,407	07/16/91	Wagner et al			
	AI	5,605,822	02/25/97	Emerson et al			
	AJ	5,670,351	09/23/97	Emerson et al			
	AK	4,481,946	11/13/84	Altshuler et al			
	AL	4,714,680	12/22/87	Civin			
	AM	4,889,812	12/26/89	Guinn et al			
	AN	5,032,508	07/16/91	Naughton et al			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	AO	90/15877A2	12/27/90	WIPO w/Abstract			
	AP	95/06409	03/09/95	WIPO w/Abstract			
	AQ	0 358 506	03/14/90	Europe w/Abstract			
	AR	0 455 482	11/06/91	Europe w/Abstract			
	AS	93/18136	09/16/93	WIPO w/Abstract			
	AT	93/18137	09/16/93	WIPO w/Abstract			
	AU						
	AV						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AW	M. W. Glacken et al., "Mammalian cell culture: engineering principles and scale-up", Trends in Biotechnology, Vol. 1, No. 4, 1983, PP. 102-108					
	AX	Steven A. ROSENBERG et al., "In Vitro Growth of Murine T Cells II. Growth of in Vitro Sensitized Cells Cytotoxic for Alloantigens", The Journal of Immunology, Vol. 121, No. 5. November 1978, PP. 1951-1955					
	AY	W. French ANDERSON, "Prospects for Human Gene Therapy", Science, Vol. 26, October 26, 1987, pp. 401-409					
	AZ	T.M. Dexter, "The Message in the medium", Nature, Vol. 309, June 1984, pp 746-747					
Examiner					Date Considered		
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY DOCKET NO.
216499US55CONTSERIAL NO.
New U.S. Application

LIST OF REFERENCES CITED BY APPLICANT

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GROUP

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	BA	5,945,225	08/31/99	Speith-Herfurth et al			
	BB	5,670,147	09/23/97	Emerson et al			
	BC	5,199,942	04/06/93	Gillis			
	BD	4,808,611	02/28/89	Cosman			
	BE	4,963,489	10/16/90	Naughton et al			
	BF	5,061,620	10/29/91	Tsukamoto et al			
	BG	5,922,597	07/13/99	Verfaillie et al			
	BH	5,399,493	03/21/95	Emerson et al			
	BI	4,810,643	03/07/89	Souza			
	BJ	4,965,204	10/23/90	Civin			
	BK	5,851,832	12/22/98	Weiss et al			
	BL	5,635,386	06/03/97	Palsson et al			
	BM	4,486,188	12/04/84	Altshuler et al			
	BN	4,847,201	07/11/89	Kaswasaki et al			

FOREIGN PATENT DOCUMENTS

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	BO					
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	BS					
	BT					
	BU					
	BV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	BW	Manfred R. Koller, et al. "Expansion of Primitive Human Hematopoietic Progenitors in a Perfusion Bioreactor System with LL-3, LL-6, and Stem Cell Factor", Biotechnology, Vol. 11, March, 1993, pp. 358-363
	BX	Bernhard O. PALSSON et al, "Expansion of Human Bone Marrow Progenitor Cells in a High Cell Density Continuous Perfusion System", Biotechnology, Vol. 11, March, 1993, pp. 368-372
	BY	Giovanni MIGLIACCIO et al., "In Vitro Differentiation of Human Granulocyte/Macrophage and Erythroid Progenitors: Comparative Analysis of the Influence of Recombinant Human Erythropoietin, G-CSF, GM-CSF, and IL-3 in Serum-Supplemented and Serum-Deprived Cultures", Blood, Vol. 72, No. 1 July 1988, pp. 248-255
	BZ	Ian K. McNiece et al., "Studies on the Myeloid Synergistic Factor From 5637: Comparison with Interleukin-1 Alpha", Blood, Vol. 73, No. 4 (March), 1989, pp. 919-923

Examiner

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	CA	5,004,681	04/02/91	Boyse et al			
	CB	5,437,994	8/95	Emerson, et al.			
	CC	5,674,750	10/7/97	Kraus			
	CD	5,728,581	3/17/98	Schwartz			
	CE	5,925,567	7/20/99	Kraus			
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	CW	Paul BAINES et al., Exp. Hematol. 16:785-789 (1988)					
	CX	Freedman, et al., Journal of Immunological Methods, Vol. 167, pp. 145-160					
	CY	John R. STEPHENSON et al., Proc. Nat. Acad. Sci. U.S.A., Vol. 68, No. 7, pp. 1542-1546, July 1971					
	CZ	Giovanni MIGLIACCIO et al., Exp. Hematol. 18:1049-1055 (1990)					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	DW	Richard M. Schwartz et al., "In Vitro Myelopoiesis Stimulated by Rapid Medium Exchange and Supplementation With Hematopoietic Growth Factors", Blood, Vol 78, No. 12, December 15, 1991, pp. 3155-3161					
	DX	Rob E. Ploemacher et al., "Use of Limiting-Dilution Type Long-Term Marrow Cultures in Frequency Analysis of Marrow-Repopulating and Spleen Colony-Forming Hematopoietic Stem Cells in the Mouse", Blood, Vol 78, No. 10 (November 15, 1991, pp. 2527-2533					
	DY	Manfred R. Koller et al., "Effects of Synergistic Cytokine Combinations, Low Oxygen, and Irradiated Stroma on the Expansion of Human Cord Blood Progenitors", Blood, Vol 80, No. 2 (July 15, 1992), pp. 403-411					
	DZ	J. AIKEN et al., Journal of Pediatric Surgery, Vol. 25, No. 1 (January), 1990; pp. 140-145					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	EW	C. FAVRE et al., "Interleukin-4 has Basophilic and Eosinophilic Cell Growth-Promoting Activity on Cord Blood Cells", Blood, Vol. 1, January 1, 1990, pp. 67-73					
	EX	Yoichi TAKAUE et al., "Limiting-Dilution Analysis of the Effects of Colony-Stimulating Factors, Phytohemagglutinin, and Hydrocortisone on Hematopoietic Progenitor Cell Growth", Blood, Vol. 70, No. 5, November, 1987, pp. 1611-1618					
	EY	Yoichi TAKAUE et al., "Effect of Recombinant Human G-CSF, GM-CSF, IL-3, and IL-1 α on the Growth of Purified Human Peripheral Blood Progenitors", Blood, Vol. 76, No. 2, July 15, 1990, pp. 330-335					
	EZ	H. J. Sutherland et al., "Alternative Mechanisms With and Without Steel Factor Support Primitive Human Hematopoiesis", Blood, Vol. 81, No. 6., March 15, 1993, pp. 1465-1470					
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LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Alan K. SMITH, et al.			
				FILING DATE February 23, 1998		GROUP 1644	
U.S. PATENT DOCUMENTS							
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	FW	Lucia H. Coutinho et al., "Effects of Recombinant Human Granulocyte Colony-Stimulating Factor (CSF), Human Granulocyte Macrophage-CSF, and Gibbon Interleukin-3 on Hematopoiesis in Human Long-Term Bone Marrow Culture", Blood, Vol. 11, June 1, 1990, pp. 2118-2129					
	FX	Susan C. GUBA et al., "Bone Marrow Stromal Fibroblasts Secrete Interleukin-6 and Granulocyte-Macrophage Colony-Stimulating Factor in the Absence of Inflammatory Stimulation: Demonstration by Serum-Free Bioassay, Enzyme-Linked Immunosorbent Assay, and Reverse Transcriptase Polymerase Chain Reaction", Blood, Vol. 80, No. 5, September 1, 1992, pp. 1190-1198					
	FY	Richard M. SCHWARTZ et al., "Rapid medium perfusion rate significantly increases the productivity and longevity of human bone marrow cultures", Proc. Natl. Acad. Sci. USA, Vol. 88, pp. 6760-6764, August 1991					
	FZ	David E. HARRISON et al., "Primitive hemopoietic stem cells: direct assay of most productive populations by competitive repopulation with simple binomial, correlation and covariance calculations", Experimental Hematology 21:206-219 (1993)					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	GW	D. KRUMWIEH et al., "Preclinical Studies on Synergistic Effects of IL-1, IL-3, G-CSF and GM-CSF in Cynomolgus Monkeys", International Journal of Cell Cloning 8:229-248, Suppl. 1 (1990)					
	GX	Makio OGAWA, Ph.D., "Effects of Hemopoietic Growth Factors on Stem Cells in Vitro", Hematology/Oncology Clinics of North America, Vol. 3(3) September 1989, pp. 453-464					
	GY	Jerry CALDWELL et al., "Culture Perfusion Schedules Influence the Metabolic Activity and Granulocyte-Macrophage Colony-Stimulating Factor Production Rates of Human Bone Marrow Stromal Cells", Journal of Cellular Physiology, 147:344-353 (1991)					
	GZ	C.M. HEYWORTH et al., "The Role of Hemopoietic Growth Factors in Self-Renewal and Differentiation of IL-3-Dependent Multipotential Stem Cells", Growth Factors, 1990, Vol. 2, pp. 197-211					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	HW	Shiang HUANG et al., "Formation of haematopoietic Microenvironment and haematopoietic stem cells from single human bone marrow stem cells", Nature, Vol. 360, 24/31 December 1992, pp. 745-749					
	HX	Randy A. HOCK et al., "Retrovirus-mediated transfer and expression of drug resistance genes in human haematopoietic progenitor cells", Nature, Vol. 320, March 1986, pp. 275-277					
	HY	A.A. FAUSER et al., "Granuloerythropoietic Colonies in Human Bone Marrow, Peripheral Blood, and Cord Blood" Blood, Vol. 52, No. 6, December 1978, pp. 1243-1248					
	HZ	C.D. MYERS et al., "A Cell Line Secreting Stimulating Factors for CFU-GEMM Culture", Blood, Vol. 64, No. 1 (July) 1984, pp. 152-155					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	IW	Alice M. WANG et al., "Molecular Cloning of the Complementary DNA for Human Tumor Necrosis Factor", Science, Vol. 228, 20 November 1984, pp. 149-154					
	IX	Colin A. SIEFF et al., "Human Recombinant Granulocyte-Macrophage Colony-Stimulating Factor: A Multilineage Hematopoietin" Science, Vol. 230, 6 December 1985, pp. 1171-1173					
	IY	Robert E. DONAHUTE et al., "Human IL-3 and GM-CSF Act Synergistically in Stimulating Hematopoiesis in Primates", Science, Vol. 241, 30 September 1988, pp. 1820-1823					
	IZ	Ronald H. SCHWARTZ, "A Cell Culture Model for T Lymphocyte Clonal Anergy", Science, Vol. 248, 15 June 1990, pp. 1349-1356					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	JW	Toshio SUDA et al., "A Stimulatory Effect of Recombinant Murine Interleukin-7 (IL-7) on B-Cell Colony Formation and an Inhibitory Effect of IL-1 α ", Blood, Vol. 74, No. 6, November 1, 1989, pp. 1936-1941					
	JX	Heather J. SUTHERLAND et al., "Characterization and Partial Purification of Human Marrow Cells Capable of Initiating Long-Term Hematopoiesis In Vitro", Blood, Vol. 74, No. 5 (October), 1989; pp. 1563-1570					
	JY	Sem SEELAND et al., "Combined and Sequential Effects of Human IL-3 and GM-CSF on the Proliferation of CD34+ Hematopoietic Cells From Cord Blood", Blood, Vol. 73, No. 5, (April), 1989; pp. 1195-1201					
	JZ	Sallie S. BOGGS, "Targeted Gene Modification for Gene Therapy of Stem Cells", International Journal of Cell Cloning 8:80-96 (1990)					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	KW	Cynthia E. DUNBAR et al., "Gene Transfer into Hematopoietic Progenitor and Stem Cells: Progress and Problems", Stem Cells 1994;12:563-576
	KX	Angelika MUELLER, "Die Knochenmarkstammzellkultur Technische Voraussetzungen und klinische Einsatzmoeglichkeiten", Folia Haematol., Leipzig 116 (1989) 5, 731-743
	KY	Stephen G. EMERSON et al., "Purification of Fetal Hematopoietic Progenitors and Demonstration of Recombinant Multipotential Colony-stimulating Activity", The Journal of Clinical Investigation, Vol. 76, September 1985, 1286-1290
	KZ	pp. 573-578: "Clinical Transplantation", In <u>Immunology</u> , Second Edition, J. Kuby, W.H. Freeman and Company, New York (1994)

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